

# PATENT COOPERATION TREATY

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# PCT

To:

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2004/002615

International filing date (day/month/year)  
18.06.2004

Priority date (day/month/year)  
18.06.2003

International Patent Classification (IPC) or both national classification and IPC  
B60R1/02, B60R1/06

Applicant  
AMBROSE, Russell Keith

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**International application No.  
PCT/GB2004/002615**IAP20 Rec'd PCT/PTO 14 DEC 2005****Box No. 1 Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2004/002615

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, Inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	5,8-10,12,13
	No: Claims	1-4,6,7,11,14,15
Inventive step (IS)	Yes: Claims	
	No: Claims	5,8-10
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2004/002615

**IAP20 Rec'd PCT/PTO 14 DEC 2005**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

- D1:** WO 02/102621 A (PERKES JASON STEPHEN ; SOUTH BANK UNIVERSITY ENTPR LT (GB)) 27 December 2002 (2002-12-27)
- D2:** US 2002/005778 A1 (JOHNSON WENDELL C ET AL) 17 January 2002 (2002-01-17)
- D3:** DE 198 01 205 A (VOLKSWAGENWERK AG) 30 July 1998 (1998-07-30)
- D4:** US-B-6 169 4781 (HADA SATOSHI ET AL) 2 January 2001 (2001-01-02)
- D5:** EP-A-1 312 506 (FIAT RICERCHE) 21 May 2003 (2003-05-21)
- D6:** US-A-5 963 127 (LANG HEINRICH ET AL) 5 October 1999 (1999-10-05)
- D7:** US-A-5 306 953 (WEINER ROBERT I) 26 April 1994 (1994-04-26)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **claims 1-4, 6, 7, 11 and 14-15** is not new in the sense of Article 33(2) PCT.
- 1.1 The document D1 discloses (the references in parentheses applying to this document) (some changes have been introduced in the formulation of claim 1 in order to overcome minor clarity errors):

A sensing system for detecting obstacles (page 3, lines 13-14) by a vehicle with an exterior mirror inside a mirror housing, comprising (i) an area sensing means mounted in the mirror housing of an exterior mirror of the vehicle which is capable of detecting obstacles (page 4, line 23-page 5, line 3; page 5, lines 5-8) and (ii) a control signal transmission means mounted inside or adjacent to the mirror housing and connected to the area sensing means (page 3, line 28-page 4, line 1) in which, when the area sensing means detects an obstacle, a control signal is sent by the control signal transmission means to a control signal receiver inside the cab of the vehicle (page 3, lines 13-16).

D1 does not explain in detail how the system comprising the image sensing

means (or *area sensing means* as it is defined in claim 1) and the control means is distributed. However, through the paragraph on page 3, line 28-page 4, line 1 it is directly derivable that the mirror assembly comprises a transmission means (*the control signal transmission means* of claims 1) which sends control signals to different parts of the vehicle, as, for example, the warning means which can be located inside the driver's cab (page 3, lines 15-16 in D1). This implies that the driver's cab comprises a receiving means (*control signal receiver* in claim 1) which receives the control signal from the *control signal transmission means* and activates the warning signal.

Since all the features of **claim 1** are present in document D1 claim 1 is not new under Article 33(2) PCT.

- 1.2 Dependent **claims 2-7, 11 and 14-15** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty. These features can be found in the following paragraphs of D1:

Claims 2 and 11: page 3, lines 28-30.

Claims 3-4: page 2, lines 27-30.

Claims 6 and 7: page 3, lines 13-16.

Claims 14-15: page 2, lines 1-8).

2. The subject-matter of **claims 5 and 8-10** does not involve an inventive step in the sense of Article 33(3) PCT.

- 2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses a mirror assembly which incorporates an image sensor which detects a specific image on the trailer in order to identify a turn of the articulated vehicle and which can also identify other road users, obstacles, persons etc (see page 3, lines 13-15). However, document D1 does not disclose that the image sensing means can also measure distance to the detected obstacles, as claimed in claim 5.

The problem to be solved by the present claim may therefore be regarded as efficiently monitoring the environment of the vehicle using all the useful

information from the detected objects captured by the area sensing means.

The solution proposed in claim 5 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Document D1 does not define a specific technology to be used by the area sensing means (see page 2, lines 27-28). Moreover, in the area of vehicular blind spot identification and obstacle monitoring it is of common practice to use an image monitoring and processing means which can detect obstacles and other parameters as their speed, distance to the host vehicle etc. Documents D2-D6 are just some examples showing this, where image detectors such as infrared, CMOS opto-electronic sensors etc are used. The skilled person would therefore regard it as a normal option to use one of the mentioned technologies and include the feature of measuring the distance to the vehicles in the monitoring mirror arrangement described in document D1 in order to solve the problem posed.

- 2.2 The subject-matter of claims 8-10 defines that the warning signal changes with the distance to the obstacle, so that if the warning is audible it is the pitch and/or the volume what increases as the distance decreases and if it is a visual warning it is the brightness and/or colour what changes.

The solutions proposed in claims 8-10 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) since these features have already been employed for the same purpose in similar documents such as D3 (see column 4, lines 17-29) and D4 (column 7, line 65-column 8, line 10). It would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply these features with corresponding effect to a warning device according to document D1, thereby arriving at the solution according to claims 8-10.

3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.